EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2014-0125 **Date: 15 May 2014** Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.

This AD is issued in accordance with EU 748/2012, Part 21.A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:	**Type/Model designation(s):**
HR SMITH (Technical Developments)	Crash Position Indicator System 15 503 134-1 series

ETSO Authorisation:	CAA.O.0005
Foreign AD:	Not applicable
Supersedure:	None

ATA 25	**Equipment / Furnishings – Crash Position Indicator System – Replacement; Aircraft Flight Manual – Amendment**

Manufacturer(s):	HR Smith (Technical Developments)
Applicability:	HR Smith (Technical Developments) Crash Position Indicator (CPI) system 15-503-134-1 series, if equipped with - Beacon Release Unit (BRU) Part Number (P/N) 503-21-1, and - System Interface Unit (SIU) P/N 503-24 or P/N 503-24-2 or P/N 503-24-6. This CPI system is known to be installed on, but not limited to the following aircraft: - Airbus Helicopters (formerly Eurocopter) Model EC 225 LP
Reason:	Reports have been received on unintended CPI system deployments on the ground on EC 225 LP helicopters. The result of subsequent investigation determined that CPI systems equipped with a BRU P/N 503-21-1 and an SIU P/N 503-24 or P/N 503-24-2 or P/N 503-24-6 are affected. The deployment occurs during the aircraft power-on sequence when the power supply is fluctuating between 18 and 22 V DC and the BRU capacitors and backup battery pack are totally discharged. Under certain circumstances, data transferred during the power-on sequence can be corrupted and may result in a Power-On Built-In Test (PBIT) failure, or a corruption of the G threshold levels which are used for automatic activation of CPI deployment. This condition, if not corrected, could lead to an unintended CPI deployment on ground or in flight, possibly resulting in injury to persons on the ground.

<table>
<tr><td></td><td>In addition, corruption of the G threshold level could also prevent CPI deployment when it is intended, i.e. during crash accelerations. Such data corruption cannot be detected by the operator.

To address this unsafe condition, HR Smith issued Service Bulletin (SB) HRS-SB-03-17-141 providing instructions for temporary operational measures, pending the introduction of improved CPI SIU parts.

For the reasons described above, this AD requires amendment of the Aircraft Flight Manual (AFM) to incorporate temporary CPI SIU operating procedures and replacement of the SIU with an improved part.</td></tr>
<tr><td>Effective Date:</td><td>22 May 2014</td></tr>
<tr><td>Required Action(s) and Compliance Time(s):</td><td>Required as indicated, unless accomplished previously:

(1) Within 30 days after the effective date of this AD, amend the AFM of affected aircraft to incorporate temporary CPI SIU operating procedures by inserting a copy of Appendix 1 of this AD (or its text) into the applicable Normal Procedures Section of the AFM.

(2) Following amendment of the AFM as required by paragraph (1) of this AD, take the following actions, as applicable:

(2.1) Before the first flight of each day, accomplish the Complete Start-up procedure in accordance with the instructions of paragraph A. of Appendix 1 of this AD.

(2.2) Before each subsequent flight, accomplish the applicable Start-up procedure as specified in Table 1 of this AD, depending on how many hours the CPI SIU switch has remained in ARM position without aircraft or ground power after the previous flight.

Table 1 – Applicable Start-up Procedure

<table><tr><td>Duration of CPI SIU switch in ARM position without aircraft or ground power after the previous flight</td><td>Start-up procedure</td></tr><tr><td>2 hours or more</td><td>Complete Start-up procedure in accordance with the instructions of paragraph A. of Appendix 1 of this AD.</td></tr><tr><td>Less than 2 hours</td><td>Alternate Start-up procedure in accordance with the instructions of paragraph B. of Appendix 1 of this AD.</td></tr></table>
(2.3) After each flight, accomplish the Shutdown procedure in accordance with the instructions of paragraph C. of Appendix 1 of this AD.

(3) Compliance with the requirements of paragraph (2) of this AD can be demonstrated by:

(3.1) Revising the approved Aircraft Maintenance Programme (AMP) on the basis of which the operator or the owner ensures the continuing airworthiness of each operated aircraft:

Incorporate the temporary CPI SIU operating procedures by inserting a copy of Appendix 1 of this AD (or its text),

and

(3.2) Complying with the approved AMP described in paragraph (3.1) of this AD.</td></tr>
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	Note: The temporary CPI SIU operating procedures as required by paragraph (2) of this AD may be accomplished by the flight crew in accordance with the applicable provisions of Commission Regulation No. 2042/2003, Part M or Part 145, as applicable. (4) Within 18 months after the effective date of this AD, replace the CPI SIU having P/N 503-24 or P/N 503-24-2 or P/N 503-24-6 with an improved unit P/N 503-24G or P/N 503-24-2G or P/N 503-24-6G in accordance with the applicable aircraft Design Approval Holder service instructions and, concurrently, remove the temporary AFM procedure as required by paragraph (2) of this AD. (5) Modification of an aircraft as required by paragraph (4) of this AD constitutes terminating action for accomplishment of the procedures as required by paragraph (2) of this AD. (6) From the effective date of this AD, installation on an aircraft of an HR Smith (Technical Developments) CPI system series 15-503-134-1 equipped with BRU P/N 503-21-1 and SIU P/N 503-24 or P/N 503-24-2 or P/N 503-24-6 is allowed, provided the aircraft is operated in compliance with the procedures as required by this AD. (7) After replacement of the CPI SIU on an aircraft as required by paragraph (4) of this AD, do not install an SIU P/N 503-24 or P/N 503-24-2 or P/N 503-24-6 on the CPI system of that aircraft.
Ref. Publications:	HR Smith SB HRS-SB-03-17-141 issue 05 dated 10 April 2014. The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.
Remarks:	1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail: ADs@easa.europa.eu. 4. For any question concerning the technical content of the requirements in this AD, please contact: Techtest Limited, Street Court, Kingsland, Leominster, Herefordshire HR6 9QA, United Kingdom, Telephone +44 01568 708744, Email: quality@hrsmith.biz; Web: http://www.hr-smith.com/.

Appendix 1: Temporary CPI SIU Operating Procedures

A. Complete Start-up procedure

This procedure applies before the first flight of each day and before each flight following a period where the CPI SIU switch has remained in ARM position for more than 2 hours without aircraft or ground power.

Case [1] : Ground Power Unit available in the two hours which precede starting

1. Recharge CPI SIU internal battery pack before arming according to the procedure described in §D. " Procedure for charging CPI SIU back-up battery pack".
2. Put CPI SIU in ARM position
3. Start-up aircraft within 2 hours which follow this charge.

***Note**: In case of doubt about the time passed from the charge procedure to start-up, recharge the SIU back up battery pack as described in §D. "Procedure for charging SIU back-up battery pack".*

Case [2] : Ground Power Unit available at aircraft power up

1. Check that the CPI SIU is in OFF position since at least 15 minutes
2. Apply power to the aircraft through the use of a Ground Power Unit.
3. Put CPI SIU in ARM position.
4. Start-up aircraft engines.

Case [3] : Ground Power Unit not available within the two hours which precede starting

1. Check that the CPI SIU is in OFF position since at least 15 minutes
2. Start-up aircraft engines.
3. Then, put CPI SIU in ARM position

B. Alternate Start-up procedure

This procedure applies before each flight following a period where the CPI SIU switch did not remain in ARM position for more than 2 hours without aircraft or ground power, excluding the first flight of the day.

- Crash Position Indicator (CPI) SIU……set to ARM
- Start-up aircraft engines

C. Shutdown procedure

Case [1] : Next flight foreseen within 2 hours after engine shutdown

- Crash Position Indicator (CPI) SIU…… maintain ARM

Note: If flight is not achieved within 2 hours, apply the Complete Start-up procedure as above.

Case [2] : Next flight foreseen later than 2 hours after engine shutdown

- Crash Position Indicator (CPI) SIU…… set to OFF after engine shutdown

D. Procedure for charging SIU back-up battery pack

1. Check that the CPI SIU is in OFF position since at least 15 minutes
2. Apply power to the aircraft through the use of a Ground Power Unit
3. Maintain the charge during at least 15 minutes
4. Remove the Ground Power Unit